

# ENGINEERING HERITAGE RECOGNITION PROGRAM

## PROPOSAL TO NOMINATE AN EHRP ITEM OF INTEREST

<b>Item Name:</b>	Woolcott Street Bridge		
<b>Other/Former Names:</b>	Carr Street Bridge, Dombarton Bridge, Goulburn River Bridge.		
<b>Locality:</b>	Waverton		
<b>Address:</b>	Woolcott Street, Waverton		
<b>Co-ordinates</b>	-33.83982, 151.19955 <a href="https://maps.app.goo.gl/AvHxEjpenjNtCDuZ7">https://maps.app.goo.gl/AvHxEjpenjNtCDuZ7</a>		
<b>Current Owner:</b>	Transport Assets Holding Entity		
<b>Original Owner:</b>	New South Wales Government Railways		
<b>Current use:</b>	Railway underbridge		
<b>Former use:</b>	Railway underbridge		
<b>Proposed use:</b>	Railway underbridge		
<b>Item Condition:</b>	Excellent		
<b>Designer:</b>	1939 Albert Fewtrell, Chief Civil Engineer 1943 William Beaver, Acting Chief Civil Engineer		
<b>Builder:</b>	Department of Railways NSW, Way and Works Branch		
<b>Started:</b>	1939	<b>Completed:</b>	1993
<b>History:</b>	<p>The original bridge at this site, built in 1893 was a through riveted girder bridge with ballasted track carried on a corrugated steel floor. Because of corrosion of the steel floor replacement of the bridge was planned in 1923, but never carried out, though repairs were made. In 1993 the bridge was no longer serviceable and was replaced with a recycled through-girder bridge with a floor composed of cross girders and stringers.</p> <p>The bridge had been previously used at Dombarton, between Unanderra and Summit Tank on the Unanderra to Moss Vale line as part of a unique crossing loop provided in 1943 during the Second World War to increase line capacity. The precarious site on the escarpment, and the severe grade, precluded a standard loop so a complex arrangement was made involving an overpass and this required a bridge. The design required that the bridge be skewed with the line across it set on a curve, which the deck stringers followed. This crossing loop arrangement was replaced with double-track in 1987, when the bridge became surplus but was stored for re-use rather than scrapped.</p> <p>The main girders for the bridge were already in existence in 1943 when they were requisitioned for the urgent construction of the Dombarton loop. They had been fabricated in the late 1930s for use as a bridge across the Goulburn River on the then incomplete and later construction-abandoned Sandy Hollow to Maryvale line. Here they would have been part of a deck-girder bridge but at Dombarton they were used as a through-girder bridge.</p>		
<b>Description:</b>	The bridge is a generally riveted plate-web girder supported on the 1893		

## ENGINEERING HERITAGE RECOGNITION PROGRAM

	<p>brick abutments. The bridge has been shortened from its original 80ft (24m) span to about 60ft(18m) so where modifications have been made to web stiffeners etc., they are welded rather than riveted.</p> <p>The girders are spaced further apart than they need to be for the bridge's single-track use. This is a remnant design feature from the previous use on a curved section of track. The transoms which carry the rails are supported on stringer girders which are in turn supported by cross girders. These stringer girders still follow a curved line, though the track they support is straight, again a remnant design from earlier use.</p>		
<b>Engineering Significance:</b>	<p>The significance of this bridge is linked to its recycling. This is the third use of these girders. It well illustrates the propensity of the NSW Railways to obtain maximum return for their investment in steel, in earlier times imported at great expense, and the value embedded in an existing fabricated structure. Many bridges on the NSW railway system were recycled and remain in use. Often, they had not been put out of use by irreparable deterioration, but most often by track realignments or changed loading conditions. They could be re-used in situations of less onerous loading; modified by shortening the span; or by minor redesign.</p> <p>Plans and tabulations exist of surplus bridge stock held in construction depots ready for re-use as required.</p>		
<b>Webpage Summary:</b>	<p>The original bridge at this site, built in 1893 was a through riveted girder bridge with ballasted track carried on a corrugated steel floor. In 1993 the bridge was no longer serviceable and was replaced with a recycled through girder bridge with a floor composed of cross girders and stringers.</p> <p>The bridge had been previously used at Dombarton, between Unanderra and Summit Tank on the Unanderra to Moss Vale line as part of a unique crossing loop provided in 1943 during the Second World War to increase line capacity. Because of the difficult terrain the bridge was skewed with the line across it set on a curve, which the deck stingers followed. This crossing loop arrangement was replaced with double-track in 1987, when the bridge became surplus but was stored for re-use rather than scrapped.</p> <p>The main girders for the bridge were already in existence in 1943 when they were requisitioned for the urgent construction of the Dombarton loop. They had been fabricated in the late 1930s for use as a bridge across the Goulburn River on the then incomplete and subsequently construction-abandoned Sanday Hollow to Maryvale line. Here they would have been part of a deck-girder bridge but at Dombarton they were used as a through-girder bridge.</p>		
<b>Engineering Theme:</b>	Transport: River, Rail, Road.		
<b>Heritage Listing:</b>	None		
<b>References:</b>	<i>Woolcott Street Bridge</i> , Bill Phippen. Unpublished manuscript.		
<b>Nominated by:</b>	Bill Phippen		
<b>Contact Ph. &amp; Email:</b>	0412 379 236	billhippen@telstra.com	
<b>EHA Branch Chair:</b>		<b>Approval Date:</b>	March 2024

## ENGINEERING HERITAGE RECOGNITION PROGRAM

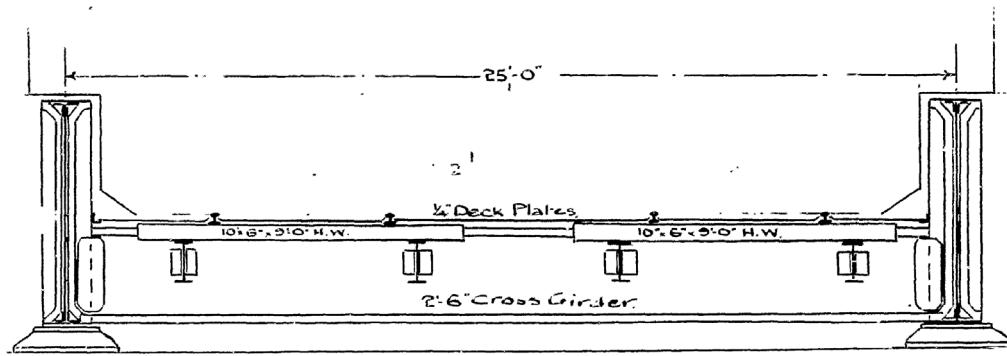


*A steam-hauled commuter train approaching Waverton across the then Carr Street bridge after collecting its passengers from Milsons Point in 1922. During its life the name of the street below the bridge has been changed. RS Fookes' Collection ARHSnsw 005414*



*The Carr Street bridge before intense settlement of the area. Cornelius Cardew ARHSnsw 034388*

## ENGINEERING HERITAGE RECOGNITION PROGRAM



*The replacement bridge at Carr Street, planned in 1913, was to be constructed with cross girders and stringer girders under the tracks. ARHSnsw collection.*



*Woolcott Street Bridge after its replacement. The new span is single track only. ARHSnsw 235237*

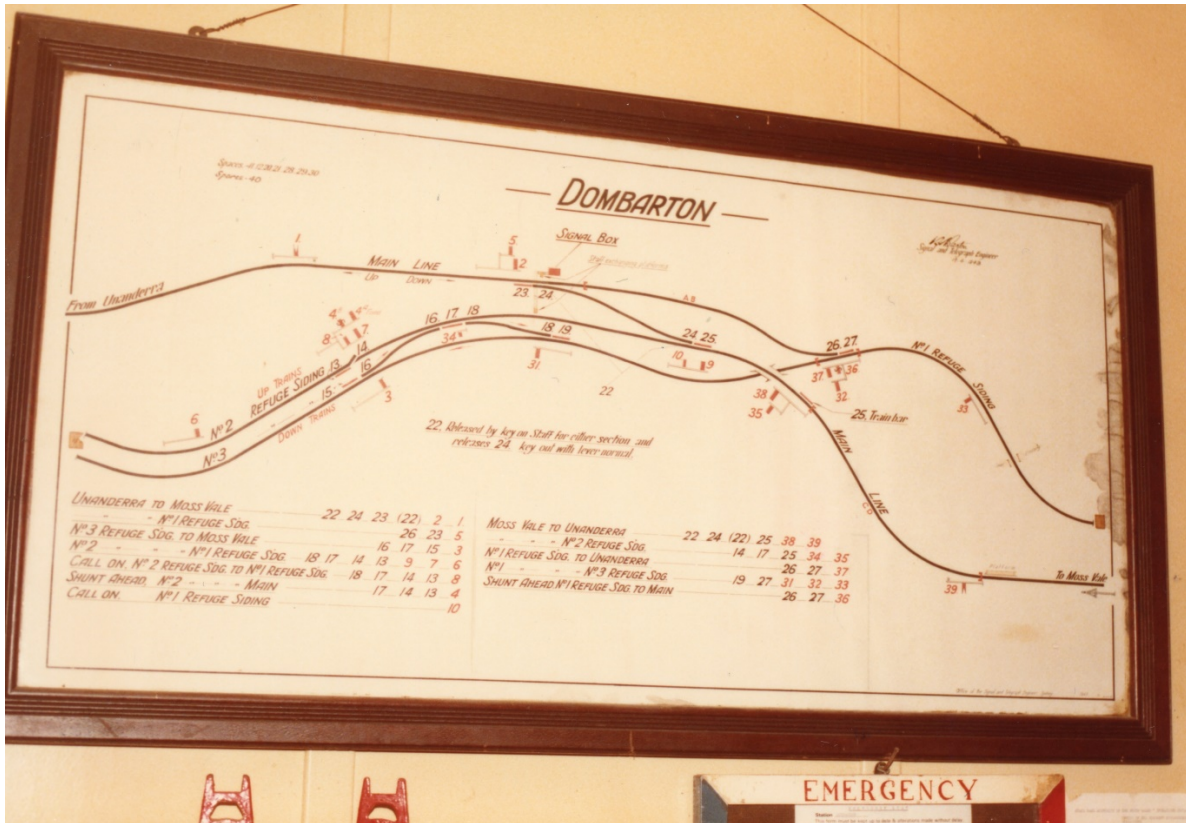


*The span in its second use at Dombarton, apparently soon after construction. The track on the right is the line from Unanderra. An uphill train would then reverse under the bridge to a siding from where it could run forward back onto the mainline and over the bridge. About 1943. LG Poole Collection ARHSnsw 048738*

# ENGINEERING HERITAGE RECOGNITION PROGRAM

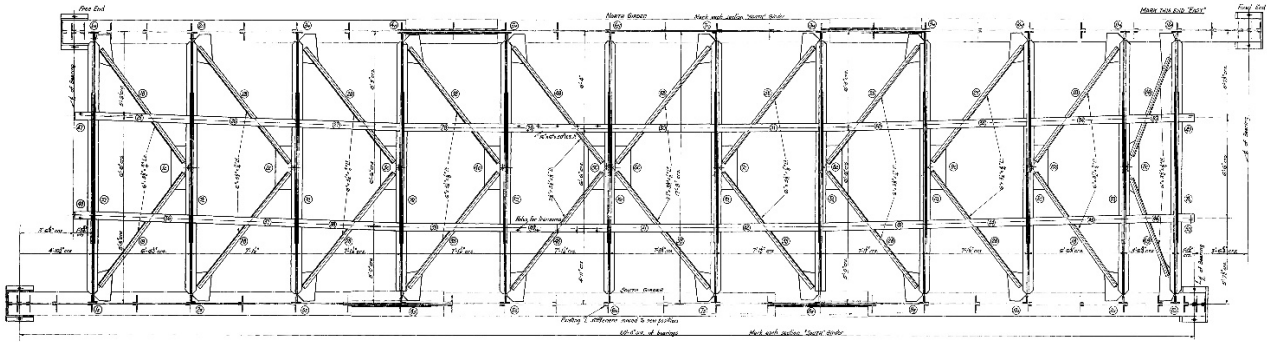


# ENGINEERING HERITAGE RECOGNITION PROGRAM



The track arrangements at Dombarton as displayed on the diagram in the signal box. ARHSnsw 737335 Noel Reed

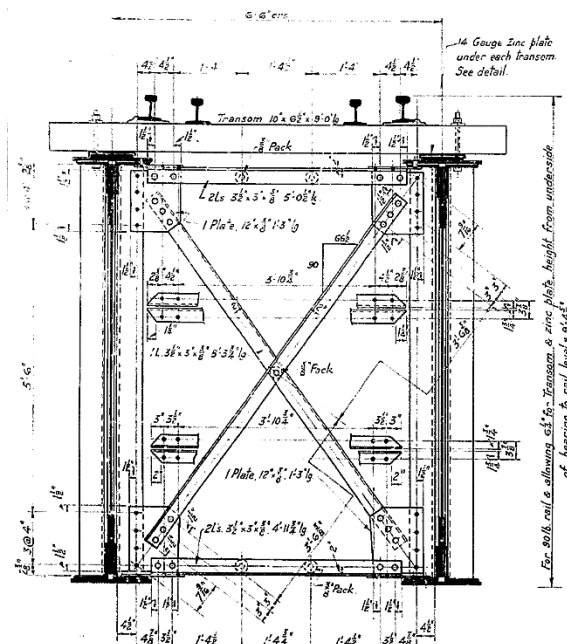
# ENGINEERING HERITAGE RECOGNITION PROGRAM



*The Dombarton bridge was skewed with the stringer girders made to follow the curve of the track. ARHSnsw collection*



*Although more work was done in the early 1950s and this photo was taken in 1968, by 1942 significant work had been done on the Sandy Hollow Railway such that completed steel girders were on site or fabricated in shops, available for commandeering to other more urgent projects, such as the bridge at Dombarton. Peter Sage ARHS 553072*



*The girders would have been used as a deck span at Sandy Hollow. ARHSnsw collection*



## ENGINEERING HERITAGE RECOGNITION PROGRAM



*The track at Waverton is straight and at midspan it is decidedly displaced to the left relative to the stringers as shown by the misalignment with the intersection of the diagonals of the floor bracing and the asymmetry of the four rails (two running, two check) with the stringers. Bill Phippen*



*Although taken in 1967, many years after the span for Dombarton was 'borrowed', and not of an 80ft span, this photo well illustrates the advanced state of construction which the railway reached before its abandonment. The original intention was to use the 80-foot spans as deck girders like these at Kerrabee. Peter Sage ARHSnsw 553053*



## ENGINEERING HERITAGE RECOGNITION PROGRAM



*The new single-track bridge as it exists at Woolcott Street occupies well more than half of the brick abutment which once carried a double-track bridge. Bill Phippen*



# ENGINEERING HERITAGE RECOGNITION PROGRAM